IN THE CLAIMS:

Please amend the claims as indicated below:

1. (Currently amended) A method for characterizing gene expression, the method
5   comprising the steps of:

determining a plurality of gene expression signals for a gene, wherein said
plurality of gene expression signals comprise control data and phenotype data;

transforming said plurality of gene expression signals, wherein said transforming
results in transformed gene expression signals having a uniform distribution of said gene
10   expression signals within a selected interval in said control data, and wherein said control data
transformations are applied to corresponding phenotype data to convert said corresponding
phenotype data to transformed phenotype values;

using said transformed gene expression signals to determine one or more gene
expression patterns by searching said transformed ~~gene expression signals~~ phenotype values for
15   said one or more ~~gene expression~~ patterns, ~~wherein the~~ and using a pattern-finding algorithm to
determine one or more gene expression patterns ~~characterize said control data and said~~
~~phenotype data~~;

characterizing gene expression of an unknown sample by determining one or
more gene expression patterns for said unknown sample and comparing said one or more gene
20   expression patterns of said unknown sample with said one or more gene expression patterns that
characterize said control data and said phenotype data to ~~characterize~~ classify said unknown
sample as similar to either said control data or said phenotype data or neither; and

outputting said characterization to at least one of a computer and a user.

25   2. (Previously presented) The method of claim 1, further comprising the step of
transforming gene expression signals of an additional sample.

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3.   (Previously presented) The method of claim 1, wherein the step of transforming comprises the steps of:

determining a function that approximates a distribution of the plurality of gene expression signals for the gene; and

using the function to transform said plurality of gene expression signals, wherein said transformed gene expression signals have a uniform distribution of said gene expression signals within a selected interval in said control data.

4.   (Canceled)

5.   (Canceled)

6.   (Canceled)

7.   (Canceled)

8.   (Canceled)

9   (Canceled)

10   (Canceled)

11.   (Canceled)

12.   (Canceled)

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13. (Canceled)

14. (Canceled)

5   15. (Canceled)

16. (Canceled)

17. (Currently amended) A system comprising:

10   a memory that stores computer-readable code; and

a processor operatively coupled to the memory, the processor configured to implement the computer-readable code, the computer-readable code configured to:

determine a plurality of gene expression signals for a gene, wherein said plurality of gene expression signals comprise control data and phenotype data;

15   transform said plurality of gene expression signals, wherein said transforming results in transformed gene expression signals having a uniform distribution of said gene expression signals within a selected interval in said control data, and wherein said control data transformations are applied to corresponding phenotype data to convert said corresponding phenotype data to transformed phenotype values;

20   use said transformed gene expression signals to determine one or more gene expression patterns by searching said transformed ~~gene expression signals~~ phenotype values for ~~said~~ one or more ~~gene expression~~ patterns~~, wherein the~~ and using a pattern-finding algorithm to determine one or more gene expression patterns ~~characterize said control data and said phenotype data~~;

25   characterize gene expression of an unknown sample by determining one or more gene expression patterns for said unknown sample and comparing said one or more gene expression patterns of said unknown sample with said one or more gene expression patterns that

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characterize said control data and said phenotype data to ~~characterize~~ classify said unknown sample as <u>similar to</u> either said control data or said phenotype data or neither; and

output said characterization to at least one of a computer and a user

18. (Previously presented) The system of claim 17, wherein the computer-readable code is further configured to transform gene expression signals of an additional sample.

19. (Previously presented) The system of claim 17, wherein the computer-readable code is further configured, during the step of deriving, to perform the steps of:

determine a function that approximates a distribution of the plurality of gene expression signals for the gene; and

use the function to transform said plurality of gene expression signals, wherein said transformed gene expression signals have a uniform distribution of said gene expression signals within a selected interval in said control data.

20 (Canceled)

21. (Canceled)

22. (Canceled)

23. (Currently amended) An article of manufacture comprising:

a computer readable medium having computer readable code means embodied thereon, the computer readable program code means comprising:

a step to determine a plurality of gene expression signals for a gene, wherein said plurality of gene expression signals comprise control data and phenotype data;

a step to transform said plurality of gene expression signals, wherein said

transforming results in transformed gene expression signals having a uniform distribution of said gene expression signals within a selected interval in said control data, and wherein said control data transformations are applied to corresponding phenotype data to convert said corresponding phenotype data to transformed phenotype values;

5   a step to use said transformed gene expression signals to determine one or more gene expression patterns by searching said transformed ~~gene expression signals~~ phenotype values for ~~said~~ one or more ~~gene expression~~ patterns, ~~wherein the~~ and using a pattern-finding algorithm to determine one or more gene expression patterns ~~characterize said control data and said phenotype data~~; ~~and~~

10   a step to characterize gene expression of an unknown sample by determining one or more gene expression patterns for said unknown sample and comparing said one or more gene expression patterns of said unknown sample with said one or more gene expression patterns that characterize said control data and said phenotype data to ~~characterize~~ classify said unknown sample as similar to either said control data or said phenotype data or neither; and

15   a step to output said characterization to at least one of a computer and a user.

24. (Previously presented) The article of manufacture of claim 23, wherein the computer-readable code means further comprises a step to transform gene expression signals of an additional sample.

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25. (Previously presented) The article of manufacture of claim 23, wherein the computer-readable code means is further configured, during the step of deriving, to perform:

        a step to determine a function that approximates a distribution of the plurality of gene expression signals for the gene; and

25   a step to use the function to transform said plurality of gene expression signals, wherein said transformed gene expression signals have a uniform distribution of said gene expression signals within a selected interval.

26. (Canceled)

27. (Canceled)

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28. (Canceled)

29 (Previously presented) The method of claim 1, wherein the selected interval comprises an interval between 0 and 1.